O & M INSPECTION REPORT
FOR NAVIGATION AND SHORE PROTECTION PROJECTS

1. Project Name: Nawiliwili Small Boat Harbor

2. Date of Inspection: 06 Sept. 2002

3. Inspection Personnel:

	Name	Agency/Office	Telephone No.
a.	Pat Tom	COE	438-8875
b.	Eric Li	COE	438-8862

* = From inspection report dated 18-Sept-2001

Breakwater = 453 LF from Sta. 18+53 through 23+06.

Owned by Local Sponsor; Not Corps Owned - Stub Breakwater(Revetted Fill Portion) = 392 LF from Sta. 0+00 through 3+92.

Stub Breakwater = 142 LF from Sta. 3+92 through 5+36

Revetted Dike = 1,458 LF from Sta. 3+95 through 18+53.

4. Findings/Conclusions:

Performed inspection of the Nawiliwili SBH and debriefed Richard Waltjen, Harbor Agent, DLNR, 245-4586, regarding the overall condition of the project.

GENERAL:

The original construction of the breakwater(s) and revetted dike structures called for rough and irregular placement of the armor stone layer. This type of armor stone placement is more susceptible to damage by adverse high-energy wave conditions.

Herbicidal vegetation control needs to be done by the Army Corps of Engineers.

BREAKWATER 453 LF:

a. *Sta. 18+75, Begin Breakwater, HS, apparent loss of approximately 4 100# stones with 1 toe stone exposed underneath--possibly the result of poor construction (no picture).

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b. *Sta. 19+00, Aerial cross

c. Sta 19+60: Overview to end.

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d. *Sta. 21+16, OS, several armor stone resting approx. 3-4 ft. from toe of breakwater.

e. Sta. 21+56, OS , several missing armor stones at toe.

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f. *Sta. 21+80, cracked armor stone at CL of crest and void.

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g. *Sta. 22+17, Crest, (CR), 2x3x3 depression at the OS hinge --possibly the result of poor construction.

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h. *Sta. 22+35, OS, possible location of sunken sailboat, appears to have moved from previous inspections.

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i. *Sta. 22+38, CR, 2x4x2 deep void--possibly the result of poor construction.

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j. *Sta. 22+52, CR, 2x4x2 deep void--possibly the result of poor construction.

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k. *Sta. 22+95 & 23+15, OS, 2 dislodged armor stones at the waterline.

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l. *Sta. 23+38, Overview of head and aerial survey cross.

REVETTED FILL PORTION OF STUB BREAKWATER(Owned by Local Sponsor; Not Corps Owned):

a. Overview from Sta 0+00 to Sta 1+00.

b. Sta 0+50 to 2+00: Erosion along crest.

c. Sta. 1+50: Filter fabric at crest is exposed. Coral rock bedding is emptying out.

d. Sta. 2+00: Erosion along crest.

STUB BREAKWATER:

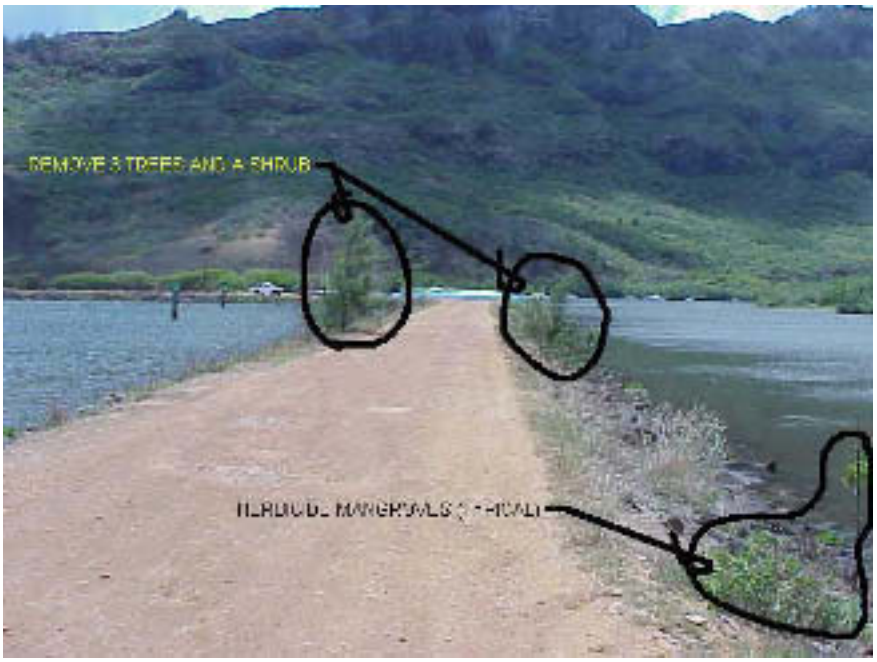
e. Sta 3+92: Stub overview to end. Herbicide mangroves and other vegetation. Action required by Army Corps of Engineers.

f. Sta 4+86: HS, monitor movement of 100# armor stones at toe.

g. *Sta. 4+96, concrete rubble built into the structure (no picture).

REVETTED DIKE:

a. *Reinstall the barrier chain to prevent access to the revetted dike. Eliminating vehicular traffic will assist in preventing erosion of the crest (fill material) of the revetted mole (no picture).



b. Sta. 3+95: Overview. Herbicide mangroves and other vegetation. Remove three (3) trees and a shrub.

c. *Sta. 5+45, HS, remove unauthorized encroachment - 3 locations where “anchors” have been installed.

d. Sta. 7+00, HS, 15 LF missing armor layer at the waterline. Monitor (possible undersized stones @ construction).

e. Sta 9+00: Overview to end. Again eliminating public vehicular traffic will retard erosion at the crest.

f. *Note: Sta. 7+48, Adjacent Access Channel, Begin PC of bend.

g. *Note: Sta. 10+00, End PC of bend.

h. *Note: Sta. 11+45, begin 1st landscape area (turn-around)

i. *Note: Sta. 15+00, begin 2nd landscape area (turn-around)

j. *Sta. 15+25, Monitor the low spot. The crest of the breakwater on the harbor side appears to be settling 6 to 12 inches. Possible cause may be vehicular traffic using the turn-around or erosion of fill from runoff.

k. *Sta. 10+00 to 23+00, Monitor the river side of the breakwater for excessive loss of 100# stones. There appears to be 10 to 20 stones per 100 feet of breakwater offset 1 to 10 feet from the toe of the breakwater.

CONCLUSION:

The breakwater structure is in relatively good condition. However, routine vegetation maintenance is required, and access needs to be blocked at revetted dike to minimize erosion due to vehicular traffic.

Signed: _____
Eric Li, E.I.T., CEPOH-EC-T

Signed: _____
James Pennaz, P.E., Ch., CEPOH-EC-T

Attached:
Site Map (1 page)
Station Map of Stub Breakwater and Main Breakwater (1 page)
Condition of Improvement Dated 30 September 1989
Telephone Conference with Richard Waltjen